

Title (en)

METHOD AND APPARATUS FOR COATING DIAMOND-LIKE CARBON ONTO PARTICLES

Title (de)

VERFAHREN UND VORRICHTUNG ZUR HERSTELLUNG VON DIAMANTARTIGEN KOHLENSTOFFSCHICHTEN AUF PARTIKELN

Title (fr)

PROCEDE ET APPAREIL D'ENDUISAGE DE PARTICULES AVEC DU CARBONE EN FORME DE LOSANGE

Publication

**EP 1034320 B1 20011219 (EN)**

Application

**EP 98950973 A 19981007**

Priority

- US 9821111 W 19981007
- US 97907297 A 19971126

Abstract (en)

[origin: US6197120B1] A method for making particles coated with a diamond-like network, which can include additive components. The method comprises subjecting a multiplicity of particles to a carbon-based plasma in an evacuated radio frequency powered capacitively coupled reactor system in which ion sheaths are formed around the electrodes and wherein the particles are agitated in such a manner as to expose their surfaces to the reactive species in the plasma while keeping the particles substantially within an ion sheath. The advantages of the present invention include (i) the efficient deposition of DLN onto particles at high deposition rates, (ii) the deposition of densely-packed DLN coatings, (iii) the ability to perform in situ surface cleaning of particles by ion bombardment with oxygen- and argon-containing plasmas prior to deposition of DLN, and (iv) the ability to tailor the bulk and surface properties of the coatings by manipulating the composition of the coating and the intensity of ion bombardment during the coating process.

IPC 1-7

**C23C 16/44**; **C23C 16/50**; **C23C 16/26**; **B22F 1/02**

IPC 8 full level

**B01J 2/00** (2006.01); **B22F 1/16** (2022.01); **C23C 16/26** (2006.01); **C23C 16/27** (2006.01); **C23C 16/44** (2006.01); **C23C 16/442** (2006.01); **C23C 16/505** (2006.01); **C23C 16/509** (2006.01)

CPC (source: EP KR US)

**B01J 2/006** (2013.01 - EP US); **B22F 1/16** (2022.01 - EP KR US); **C23C 16/26** (2013.01 - EP KR US); **C23C 16/4417** (2013.01 - EP KR US); **C23C 16/442** (2013.01 - EP KR US); **C23C 16/5096** (2013.01 - EP KR US); **Y10S 427/106** (2013.01 - EP US)

Cited by

KR20220016740A; WO2006021528A2; WO2022030674A1

Designated contracting state (EPC)

DE FR GB IT

DOCDB simple family (publication)

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DOCDB simple family (application)

**US 38216999 A 19990824**; AU 9687898 A 19981007; CN 98811433 A 19981007; DE 69803096 T 19981007; EP 98950973 A 19981007; JP 2000522295 A 19981007; KR 20007005695 A 20000525; TW 87118313 A 19981104; US 97907297 A 19971126; US 9821111 W 19981007